



UAE-led research to advance diabetes management in space

STUDY WILL HELP ASTRONAUTS WITH INSULIN-DEPENDENT DIABETES MELLITUS

ABU DHABI
BY ASHWANI KUMAR
Chief Reporter

In a historic moment for the UAE, a groundbreaking health research initiative has launched into space as part of the Axiom Mission 4 (Ax-4), which lifted off from Kennedy Space Centre in Florida yesterday after multiple postponements.

One of the mission's most significant research initiatives, Suite Ride, is a collaboration between Abu Dhabi-headquartered Burjeel Holdings and Axiom Space, with the potential to transform the future of space travel for astronauts with insulin-dependent diabetes mellitus (IDDM), a condition historically considered disqualifying for space missions.

Axiom Mission 4 crew

This landmark mission has begun its journey to the International Space Station (ISS), where, over 14 days, a four-member international crew will conduct microgravity research and technology demonstrations.

Commanded by NASA astronaut Peggy Whitson, Ax-4 includes mission pilot Shubhan-shu Shukla (India), and mission specialists Slawosz Uznanski-Wisniewski (ESA/Poland) and Tibor Kapu (Hungary). They crew will conduct more than 60 experiments from 31 countries.

Dr Shamsheer Vayalil, Founder and Chairman of Burjeel Holdings, said: "Too often, a diagnosis like diabetes quietly



■ Dr Mohammad Fityan, clinical lead of the Burjeel-Ax-4 Space Health Research (**right**), with Gavin D'Elia, global head of pharma at Axiom Space (**left**) and Dr Lucie Low, chief scientist for Axiom Space at Kennedy Space Centre.

OBJECTIVES OF THE SUITE RIDE STUDY

The Suite Ride study will utilise continuous glucose monitors (CGMs), which have become the standard for glucose monitoring in individuals with diabetes. These devices will be tested to ensure their accuracy in microgravity, providing real-time data that will ultimately support the health of astronauts with IDDM.

The comprehensive preflight, inflight and postflight protocols will employ various testing methods to validate these technologies. The Ax-4 mission plans to look at insulin exposure in microgravity to assess the potency and stability of the drug upon its return to Earth.

tells people that there are limits now and that certain paths may no longer be open. Over time, this changes how people see themselves and how others see them. Through this collaboration, we want to challenge that thinking and there is no better place to do it than space."

Dr Mohammad Fityan, chief medical officer at Burjeel Medical City and clinical lead of the Burjeel-Ax-4 Space Health Research, will be working closely with Axiom's experts to analyse the CGM data from the mission.

Their goal is to better understand the performance of these

783m

people are projected to have diabetes by 2045, with an 87% increase forecast in the Mena region

technologies in microgravity and translate the findings into real-world health care solutions.

"We're confident that the valuable insights gained will help improve healthcare access in underserved and hard-to-reach communities around the world, including in the Mena region," said Dr Fityan.

Curated exhibition

Burjeel Medical City is marking the occasion with a curated exhibition that showcases the Suite Ride initiative.

The exhibition focuses on space health research, allowing the UAE community to gain deeper insights into the mission. The UAE Embassy in Washington, D.C. recently spotlighted Suite Ride as a key milestone in the nation's advancements in human spaceflight.

Beyond the ISS, the implications of Suite Ride are global.

With diabetes expected to affect 783 million people by 2045 according to the International Diabetes Federation — and an 87 per cent increase forecast in the Mena region — the need for advanced health care solutions has never been more urgent.

SEE ALSO P12

“I carry with me the Tricolour, dreams of an entire nation’

SHUBHANSHU SHUKLA'S BLAST OFF MARKS INDIA'S RETURN TO SPACE AFTER MORE THAN 40 YEARS

NEW DELHI

In the early hours of yesterday, as the SpaceX Falcon 9 rocket roared to life and pierced through Earth's atmosphere from Nasa's Kennedy Space Centre in Florida, it carried with it not just astronauts — but the aspirations of 1.4 billion Indians.

Among the four-member Axiom-4 crew aboard the Dragon capsule “Grace” was Group Captain Shubhanshu Shukla of the Indian Air Force — now the second Indian to travel to space and the first to set foot aboard the International Space Station (ISS).

After a 41-year gap since Wing Commander Rakesh Sharma made history with the Soviet space programme in 1984, Shukla's journey represents not just a proud return, but a pivotal step toward India's indigenous human space flight mission: Gaganyaan.

“This is not my journey alone,” Shukla declared in a pre-launch message. “I carry with me the Indian flag and the dreams of an entire nation. India is returning to space. Jai Hind.”

Stepping stone

Experts and officials alike see Shukla's mission as a testbed for India's growing ambitions in manned space exploration. “Shubhanshu Shukla's mission to the space station is crucial for India as we have been preparing for the Gaganyaan mission for quite some time,” said R.C. Kapoor, astrophysicist and space expert. “With Shukla's space experiments, we will gain enriched knowledge, critical for the success of Gaganyaan.”

Scheduled for launch in 2027, the Gaganyaan mission has already undergone foundational astronaut training in Russia and Bengaluru. Lt. Gen. A.K. Bhatt (Retd.), Director General of the Indian Space Association (ISPA), called Shukla's flight a “stepping stone” and a testament to India's growing global presence in space exploration.

Union Minister Jitendra Singh praised the mission as “a proud moment for India,” underscoring the importance of international collaboration and recent reforms in India's space sector.

A taste of home, in orbit

While science defines his mission, Shukla also carries pieces of India close to his heart — and stomach. Alongside research equipment, he's brought *gajar ka halwa* (dessert made of carrot), *moong dal halwa* (dessert made of green gram), and mango nectar to share with fellow astronauts. “There will be plenty of food in space,” Shukla smiled, “but some homemade sweets bring warmth.”

He's also carrying a surprise gift for Rakesh Sharma — a personal tribute to his mentor, who guided him during mission prep.



SpaceX Falcon 9 crew poses for a selfie yesterday. AP



Indian Air Force Group Captain Shubhanshu Shukla with three of his crewmates — veteran astronaut Peggy Whitson (US) as commander, Polish engineer Sławosz Uznański, and Hungarian researcher Tibor Kapu — en route to the International Space Station, in Florida yesterday.

Pride and tears back home

In Lucknow, his family gathered before dawn to watch history unfold. “This isn't just his achievement — it's a proud moment for our whole family,” said Shukla's sister, eyes brimming with joy.

His mother, beaming with pride, said: “Today is my son's day. I've given him my blessings — and he's been sending me his since morning.”

Shukla's father, emotional and grateful, added: “I thank God for making his mission successful. We pray for his safety.”

Speaking from orbit, Shukla paid tribute to them all: “On my shoulders I have the Tricolour. I am not alone — my entire country is with me.”

A commercial milestone

The Axiom-4 mission is historic not just for India, but globally. Organised by Houston-based Axiom Space, it represents the first time India has participated in a privately funded astronaut mission.

The mission is commanded by former Nasa astronaut Peggy Whitson. Alongside Shukla, the team includes Tibor Kapu of Hungary and Sławosz Uznański-Wisniewski of Poland — making it a truly international crew.

The docking at the ISS is scheduled for June 26 at 4:30pm IST. Once aboard, the crew will commence research, outreach, and commercial activities that could shape the future of private-sector space missions. — IANS



Shambhu Dayal and Asha Shukla, Shubhanshu's parents, get emotional as they cheer for their son, in Lucknow yesterday.

LOVE LETTER TO WIFE

‘WITHOUT YOU, NONE OF THIS WOULD MATTER’

Hours before launch, Group Captain Shubhanshu Shukla sent a personal message to his family: “Just wait for me, I'm coming.”

But it was a deeply personal farewell on Instagram that captured hearts. In an emotional message posted before leaving Earth, Shukla thanked everyone who supported the mission — with a special tribute to his wife, Kamna.

“As we plan to leave the planet early morning of 25 June, I wish to thank everyone who has been involved in this mission for their support and also to all the people back home for their blessings and love. A big thank you to family and friends who have been my bedrock in this journey... Sometimes your close ones make sacrifices that you do not even fully understand, but they do so out of their love for you,” he wrote.

Addressing his wife directly, he added: “Special thanks to @kamnashubha for being the wonderful partner that you are. Without you none of this was possible, but more importantly, none of this would matter... No one travels to space alone... we do so on the shoulders of so many more. I feel grateful to each and every one of you. THANK YOU.”

The post was accompanied by a touching photograph — the couple sharing a quiet, emotional goodbye through a glass wall. The image captured the unspoken strength behind every space mission: the sacrifice of those who stay behind.

As reported by *The Times of India*, Shukla and Kamna's story began in Lucknow, where they met as children in primary school.

“We've studied together since Class 3. We've been best friends. I've known him as Gunjan, as Shubhanshu — the shy guy in our classroom — who's now inspiring so many people,” Kamna said. The couple has a six-year-old son.

— Stephen N.R., Senior Associate Editor

EXPERIMENT MODE

Mission includes 60 investigations across 31 nations

NEW DELHI

Shukla's 14-day mission at the ISS includes a packed schedule of scientific experiments, many led by Indian researchers. Of the 60 investigations across 31 nations, seven have direct Indian involvement and address long-term human survival in space.

From studying cyanobacteria — bacteria capable of producing oxygen — to microgravity's effect on muscle loss, space radiation on microalgae, and even the genetics of crop seeds, Shukla's experiments aim to lay the groundwork for future long-duration space flights, including those to the Moon or Mars.

“This is not the start of my journey, but the start of India's human space programme,” Shukla said.

As part of a collaboration between Isro, the Department of Biotechnology, and Nasa, Shukla will also study physical, cognitive, and physiological responses in space — including the effect of continuous screen exposure in microgravity, a critical factor for astronauts living in confined and tech-heavy environments.

One experiment will test the growth of edible microalgae and sprouts, evaluating them as sustainable food options for long-duration missions. — IANS